MINOR SOURCE OPERATING PERMIT
OFFICE OF AIR MANAGEMENT

Maco Corporation
1345 Henry Street
Huntington, Indiana 46750

(herein known as the Permittee) is hereby authorized to construct and operate subject to the conditions contained herein, the emission units described in Section A (Source Summary) of this permit.

This permit is issued to the above mentioned company under the provisions of 326 IAC 2-1.1, 326 IAC 2-6.1 and 40 CFR 52.780, with conditions listed on the attached pages.

Operation Permit No.: MSOP 069-11249-00048	
Issued by: Paul Dubenetzky, Branch Chief Office of Air Management	Issuance Date:

TABLE OF CONTENTS

SECTION A SOURCE SUMMARY

This permit is based on information requested by the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM). The information describing the source contained in conditions A.1 through A.3 is descriptive information and does not constitute enforceable conditions. However, the Permittee should be aware that a physical change or a change in the method of operation that may render this descriptive information obsolete or inaccurate may trigger requirements for the Permittee to obtain additional permits or seek modification of this permit pursuant to 326 IAC 2, or change other applicable requirements presented in the permit application.

A.1 General Information [326 IAC 2-5.1-3(c)] [326 IAC 2-6.1-4(a)]

The Permittee owns and operates a stationary secondary aluminum foundry.

Authorized Individual:	William Horoho
Source Address:	1345 Henry Street, Huntington, IN 46750
Mailing Address:	P.O. Box 709, Huntington, IN 46750
Phone Number:	219-356-3900
SIC Code:	3365
County Location:	Huntington
County Status:	Attainment for all criteria pollutants
Source Status:	Minor Source Operating Permit Minor Source under PSD.

A.2 Emissions units and Pollution Control Equipment Summary

This stationary source is approved to construct and operate the following emissions units and pollution control devices:

(a) One (1) natural gas-fired reverberatory furnace identified as Furnace # 2, with a maximum heat input rate of 3.55 million (MM) British thermal units (Btu) per hour with a maximum capacity of melting 1500 pounds of aluminum per hour, and exhausting through stack # 2;

(b) Nine (9) natural gas-fired reverberatory furnaces, each with a maximum melting rate of 0.5 tons of aluminum per hour, identified as Furnaces # 3 and 5, each with a maximum heat input rate of 2.90 MMBtu/hr, exhausting through stacks # 3 and 5; Furnace # 6 with a maximum heat input rate of 4.62 MMBtu/hr, exhausting through stack # 6; Furnaces # 4, 7, 8, 9 and 10 each with a maximum heat input rate of 3.55 MMBtu/hr, exhausting through stacks # 4, 7, 8, 9 and 10, respectively; and Furnace # 11 with a maximum heat input rate of 2.4 MMBtu/hr, exhausting through stack # 11;

(c) Nine (9) natural gas-fired core machines with a maximum capacity to produce 710 lbs of cores per hour, three (3) identified as Dependable 600 # 1, 2 and 3, each with a maximum heat input rate of 0.38 MMBtu/hr; three (3) identified as Dependable 400 # 1, 2 and 3, each with a maximum heat input rate of 0.27 MMBtu/hr; one (1) Dependable 200 with a maximum heat input rate of 0.17 MMBtu/hr; one (1) U360 with a maximum heat input rate of 1.00 MMBtu/hr; and one (1) Redford with a maximum heat input rate of 0.37 MMBtu/hr;

(d) Two (2) electric-fired core machines, identified as U180 #1 and U180 #2;

(e) One (1) Lost Foam Molding operation with a maximum throughput of 0.5 tons per hour with a baghouse to control PM emissions;

(f) Two (2) natural gas-fired aging ovens (ID#'s 1 and 2), each with a maximum heat input of 0.6 MMBtu/hr venting to the interior of the building;

(g) One (1) pot furnace, which serves as a holding tank only;
(h) Twenty (20) natural gas-fired torches venting to the interior of the building;

(i) One (1) SO_2 gassing chamber for the core department process that utilizes one (1) SO_2 scrubber unit to control emissions venting to the interior of the building;

(j) One (1) castings grinding/cleaning/finishing shop with a maximum throughput of 1.01 tons of aluminum per hour, with one (1) Torlt Dryno baghouse to control PM emissions venting to the interior of the building;

(k) One (1) pouring/casting operation with a maximum throughput of 5.25 tons of aluminum per hour;

(l) One (1) sand grinding/handling operation with a maximum throughput of 0.4765 tons per hour;

(m) Three (3) natural gas-fired boilers (ID#"s 1, 2 and 3) each with a maximum heat input of 0.244 MMBtu/hr, exhausting through stack # 14;

(n) One (1) natural gas-fired steam generating boiler (ID# 4) with a maximum heat input capacity of 1.344 MMBtu/hr, exhausting through stacks 15 and 16;

(o) Fifty-six (56) natural gas-fired space heaters each with a maximum heat input of 0.05 MMBtu/hr, venting to the interior of the building;

(p) One (1) cafeteria furnace, with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack # 12;

(q) One (1) office furnace with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack # 13;

(r) Two (2) 10,000 gallon underground storage tanks to store No. 2 fuel oil; and

(s) Four (4) 1,000 gallon above ground storage tanks to store LP gas.

SECTION B GENERAL CONSTRUCTION CONDITIONS

THIS SECTION OF THE PERMIT IS BEING ISSUED UNDER THE PROVISIONS OF 326 IAC 2-1.1 AND 40 CFR 52.780, WITH CONDITIONS LISTED BELOW.

B.1 Permit No Defense [IC 13]

This permit to construct does not relieve the Permittee of the responsibility to comply with the provisions of the Indiana Environmental Management Law (IC 13-11 through 13-20; 13-22 through 13-25; and 13-30), the Air Pollution Control Law (IC 13-17) and the rules promulgated thereunder, as well as other applicable local, state, and federal requirements.

B.2 Definitions

Terms in this permit shall have the definition assigned to such terms in the referenced regulation. In the absence of definitions in the referenced regulation, any applicable definitions found in IC 13-11, 326 IAC 1-2, and 326 IAC 2-1.1-1 shall prevail.

B.3 Effective Date of the Permit [IC 13-15-5-3]

Pursuant to IC 13-15-5-3, this permit becomes effective upon its issuance.

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction of reverberatory furnace # 2 is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.5 Modification to Permit [326 IAC 2]

Notwithstanding the Section B condition entitled “Minor Source Operating Permit”, all requirements and conditions of this construction permit shall remain in effect unless modified in a manner consistent with procedures established for modifications of construction permits pursuant to 326 IAC 2 (Permit Review Rules).

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

(a) The attached Affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section.

(1) If the Affidavit of Construction verifies that the reverberatory furnace # 2 covered in this Construction Permit was constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

(2) If the Affidavit of Construction does not verify that the facilities covered in this Construction Permit were constructed as proposed in the application, then the Permittee shall receive an Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section prior to beginning operation of the facilities.

(b) If construction is completed in phases; i.e., the entire construction is not done continuously, a separate affidavit must be submitted for each phase of construction. Any permit conditions associated with operation start up dates such as stack testing for New Source Performance Standards (NSPS) shall be applicable to each individual

phase.

(c) Upon receipt of the Operation Permit Validation Letter from the Chief of the Permit Administration & Development Section, the Permittee shall attach it to this document.

(d) The operation permit will be subject to annual operating permit fees pursuant to 326 IAC 2-1.1-7(Fees).

(e) Pursuant to 326 IAC 2-6.1-7, the Permittee shall apply for an operation permit renewal at least ninety (90) days prior to the expiration date established in the validation letter. If IDEM, OAM, upon receiving a timely and complete permit application, fails to issue or deny the permit renewal prior to the expiration date of this permit, this existing permit shall not expire and all terms and conditions shall continue in effect until the renewal permit has been issued or denied. The operation permit issued shall contain as a minimum the conditions in Section C and Section D of this permit.

SECTION C SOURCE OPERATION CONDITIONS

Entire Source

C.1 PSD Minor Source Status [326 IAC 2-2] [40 CFR 52.21]

(a) The total source potential to emit of PM is less than 250 tons per year. Therefore the requirements of 326 IAC 2-2 (Prevention of Significant Deterioration) and 40 CFR 52.21 will not apply.

(b) Any change or modification which may increase potential to emit to 250 tons per year from this source, shall cause this source to be considered a major source under PSD, 326 IAC 2-2 and 40 CFR 52.21, and shall require approval from IDEM, OAM prior to making the change.

C.2 Preventive Maintenance Plan [326 IAC 1-6-3]

(a) If required by specific condition(s) in Section D of this permit, the Permittee shall prepare and maintain Preventive Maintenance Plans (PMP) after issuance of this permit, including the following information on each emissions unit:

(1) Identification of the individual(s) responsible for inspecting, maintaining, and repairing emission control devices;

(2) A description of the items or conditions that will be inspected and the inspection schedule for said items or conditions;

(3) Identification and quantification of the replacement parts that will be maintained in inventory for quick replacement.

(b) The Permittee shall implement the Preventive Maintenance Plans as necessary to ensure that failure to implement the Preventative Maintenance Plan does not cause or contribute to a violation of any limitation on emissions or potential to emit.

(c) PMP's shall be submitted to IDEM, OAM, upon request and shall be subject to review and approval by IDEM, OAM. IDEM, OAM may require the Permittee to revise its Preventative Maintenance Plan whenever lack of proper maintenance causes or contributes to any violation.

C.3 Permit Revision [326 IAC 2-5.1-3(e)(3)] [326 IAC 2-6.1-6]

(a) The Permittee must comply with the requirements of 326 IAC 2-6.1-6 whenever the Permittee seeks to amend or modify this permit.

(b) Any application requesting an amendment or modification of this permit shall be submitted to:

Indiana Department of Environmental Management
Permits Branch, Office of Air Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, Indiana 46206-6015

Any such application should be certified by the "authorized individual" as defined by 326 IAC 2-1.1-1.

(c) The Permittee shall notify the OAM within thirty (30) calendar days of implementing a notice-only change. [326 IAC 2-6.1-6(d)]

C.4 Inspection and Entry [326 IAC 2-5.1-3(e)(4)(B)] [326 IAC 2-6.1-5(a)(4)]

Upon presentation of proper identification cards, credentials, and other documents as may be required by law, and subject to the Permittee's right under all applicable laws and regulations to assert that the information collected by the agency is confidential and entitled to be treated as such, the Permittee shall allow IDEM, OAM, U.S. EPA, or an authorized representative to perform the following:

(a) Enter upon the Permittee's premises where a permitted source is located, or emissions related activity is conducted, or where records must be kept under the conditions of this permit;

(b) Have access to and copy, at reasonable times, any records that must be kept under this title or the conditions of this permit or any operating permit revisions;

(c) Inspect, at reasonable times, any processes, emissions units (including monitoring and air pollution control equipment), practices, or operations regulated or required under this permit or any operating permit revisions;

(d) Sample or monitor, at reasonable times, substances or parameters for the purpose of assuring compliance with this permit or applicable requirements; and

(e) Utilize any photographic, recording, testing, monitoring, or other equipment for the purpose of assuring compliance with this permit or applicable requirements.

C.5 Transfer of Ownership or Operation [326 IAC 2-6.1-6(d)(3)]

Pursuant to [326 IAC 2-6.1-6(d)(3)] :

(a) In the event that ownership of this source is changed, the Permittee shall notify IDEM, OAM, Permits Branch, within thirty (30) days of the change.

(b) The written notification shall be sufficient to transfer the permit to the new owner by an notice-only change pursuant to 326 IAC 2-6.1-6(d)(3).

(c) IDEM, OAM, shall issue a revised permit.

The notification which shall be submitted by the Permittee does require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

C.6 Permit Revocation [326 IAC 2-1-9]

Pursuant to 326 IAC 2-1-9(a)(Revocation of Permits), this permit to construct and operate may be revoked for any of the following causes:

(a) Violation of any conditions of this permit.

(b) Failure to disclose all the relevant facts, or misrepresentation in obtaining this permit.

(c) Changes in regulatory requirements that mandate either a temporary or permanent reduction of discharge of contaminants. However, the amendment of appropriate sections of this permit shall not require revocation of this permit.

(d) Noncompliance with orders issued pursuant to 326 IAC 1-5 (Episode Alert Levels) to reduce emissions during an air pollution episode.

(e) For any cause which establishes in the judgment of IDEM, the fact that continuance of this permit is not consistent with purposes of this article.

C.7 Opacity [326 IAC 5-1]

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Alternative Opacity Limitations), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

C.8 Fugitive Dust Emissions [326 IAC 6-4]

The Permittee shall not allow fugitive dust to escape beyond the property line or boundaries of the property, right-of-way, or easement on which the source is located, in a manner that would violate 326 IAC 6-4 (Fugitive Dust Emissions). 326 IAC 6-4-2(4) is not federally enforceable.

C.9 Stack Height [326 IAC 1-7]

The Permittee shall comply with the applicable provisions of 326 IAC 1-7 (Stack Height Provisions), for all exhaust stacks through which a potential (before controls) of twenty-five (25) tons per year or more of particulate matter or sulfur dioxide is emitted by using ambient air quality modeling pursuant to 326 IAC 1-7-4.

Testing Requirements

C.10 Performance Testing [326 IAC 3-6][326 IAC 2-1.1-11]

(a) Compliance testing on new emissions units shall be conducted within 60 days after achieving maximum production rate, but no later than 180 days after initial start-up, if specified in Section D of this approval. All testing shall be performed according to the provisions of 326 IAC 3-6 (Source Sampling Procedures), except as provided elsewhere in this permit, utilizing any applicable procedures and analysis methods specified in 40 CFR 51, 40 CFR 60, 40 CFR 61, 40 CFR 63, 40 CFR 75, or other procedures approved by IDEM, OAM.

A test protocol, except as provided elsewhere in this permit, shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

no later than thirty-five (35) days prior to the intended test date. The Permittee shall submit a notice of the actual test date to the above address so that it is received at least two weeks prior to the test date.

(b) All test reports must be received by IDEM, OAM within forty-five (45) days after the completion of the testing. An extension may be granted by the IDEM, OAM, if the source submits to IDEM, OAM, a reasonable written explanation within five (5) days prior to the end of the initial forty-five (45) day period.

The documentation submitted by the Permittee does not require certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Compliance Monitoring Requirements

C.11 Compliance Monitoring [326 IAC 2-1.1-11]

Compliance with applicable requirements shall be documented as required by this permit. The Permittee shall be responsible for installing any necessary equipment and initiating any required monitoring related to that equipment. All monitoring and record keeping requirements not already legally required shall be implemented when operation begins.

C.12 Maintenance of Monitoring Equipment [IC 13-14-1-13]

(a) In the event that a breakdown of the monitoring equipment occurs, a record shall be made of the times and reasons of the breakdown and efforts made to correct the problem. To the extent practicable, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less frequent than required in Section D of this permit until such time as the monitoring equipment is back in operation. In the case of continuous monitoring, supplemental or intermittent monitoring of the parameter should be implemented at intervals no less than one (1) hour until such time as the continuous monitor is back in operation.

(b) The Permittee shall install, calibrate, quality assure, maintain, and operate all necessary monitors and related equipment. In addition, prompt corrective action shall be initiated whenever indicated.

C.13 Monitoring Methods [326 IAC 3]

Any monitoring or testing required by Section D of this permit shall be performed according to the provisions of 326 IAC 3, 40 CFR 60, Appendix A, or other approved methods as specified in this permit.

C.14 Compliance Monitoring Plan - Failure to Take Response Steps [326 IAC 1-6]

(a) The Permittee is required to implement a compliance monitoring plan to ensure that reasonable information is available to evaluate its continuous compliance with applicable requirements. This compliance monitoring plan is comprised of:

(1) This condition;

(2) The Compliance Determination Requirements in Section D of this permit;

(3) The Compliance Monitoring Requirements in Section D of this permit;

(4) The Record Keeping and Reporting Requirements in Section C (Monitoring Data Availability, General Record Keeping Requirements, and General Reporting Requirements) and in Section D of this permit; and

(5) A Compliance Response Plan (CRP) for each compliance monitoring condition of this permit. CRP's shall be submitted to IDEM, OAM upon request and shall be subject to review and approval by IDEM, OAM. The CRP shall be prepared

within ninety (90) days after issuance of this permit by the Permittee and maintained on site, and is comprised of :

(A) Response steps that will be implemented in the event that compliance related information indicates that a response step is needed pursuant to the requirements of Section D of this permit; and

(B) A time schedule for taking such response steps including a schedule for devising additional response steps for situations that may not have been predicted.

(b) For each compliance monitoring condition of this permit, appropriate response steps shall be taken when indicated by the provisions of that compliance monitoring condition. Failure to perform the actions detailed in the compliance monitoring conditions or failure to take the response steps within the time prescribed in the Compliance Response Plan, shall constitute a violation of the permit unless taking the response steps set forth in the Compliance Response Plan would be unreasonable.

(c) After investigating the reason for the excursion, the Permittee is excused from taking further response steps for any of the following reasons:

(1) The monitoring equipment malfunctioned, giving a false reading. This shall be an excuse from taking further response steps providing that prompt action was taken to correct the monitoring equipment.

(2) The Permittee has determined that the compliance monitoring parameters established in the permit conditions are technically inappropriate, has previously submitted a request for an administrative amendment to the permit, and such request has not been denied or;

(3) An automatic measurement was taken when the process was not operating; or

(4) The process has already returned to operating within “normal” parameters and no response steps are required.

(d) Records shall be kept of all instances in which the compliance related information was not met and of all response steps taken.

C.15 Actions Related to Noncompliance Demonstrated by a Stack Test

(a) When the results of a stack test performed in conformance with Section C - Performance Testing, of this permit exceed the level specified in any condition of this permit, the Permittee shall take appropriate corrective actions. The Permittee shall submit a description of these corrective actions to IDEM, OAM, within thirty (30) days of receipt of the test results. The Permittee shall take appropriate action to minimize emissions from the affected emissions unit while the corrective actions are being implemented. IDEM, OAM shall notify the Permittee within thirty (30) days, if the corrective actions taken are deficient. The Permittee shall submit a description of additional corrective actions taken to IDEM, OAM within thirty (30) days of receipt of the notice of deficiency. IDEM, OAM reserves the authority to use enforcement activities to resolve noncompliant stack tests.

(b) A retest to demonstrate compliance shall be performed within one hundred twenty (120) days of receipt of the original test results. Should the Permittee demonstrate to IDEM, OAM that retesting in one-hundred and twenty (120) days is not practicable, IDEM, OAM

may extend the retesting deadline. Failure of the second test to demonstrate compliance with the appropriate permit conditions may be grounds for immediate revocation of the permit to operate the affected emissions unit.

The documents submitted pursuant to this condition do not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1.

Record Keeping and Reporting Requirements

C.16 Malfunctions Report [326 IAC 1-6-2]

Pursuant to 326 IAC 1-6-2 (Records; Notice of Malfunction):

(a) A record of all malfunctions, including startups or shutdowns of any facility or emission control equipment, which result in violations of applicable air pollution control regulations or applicable emission limitations shall be kept and retained for a period of three (3) years and shall be made available to the Indiana Department of Environmental Management (IDEM), Office of Air Management (OAM) or appointed representative upon request.

(b) When a malfunction of any facility or emission control equipment occurs which lasts more than one (1) hour, said condition shall be reported to OAM, using the Malfunction Report Forms (2 pages). Notification shall be made by telephone or facsimile, as soon as practicable, but in no event later than four (4) daytime business hours after the beginning of said occurrence.

(c) Failure to report a malfunction of any emission control equipment shall constitute a violation of 326 IAC 1-6, and any other applicable rules. Information of the scope and expected duration of the malfunction shall be provided, including the items specified in 326 IAC 1-6-2(a)(1) through (6).

(d) Malfunction is defined as any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner. [326 IAC 1-2-39]

C.17 Monitoring Data Availability [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) With the exception of performance tests conducted in accordance with Section C-Performance Testing, all observations, sampling, maintenance procedures, and record keeping, required as a condition of this permit shall be performed at all times the equipment is operating at normal representative conditions.

(b) As an alternative to the observations, sampling, maintenance procedures, and record keeping of subsection (a) above, when the equipment listed in Section D of this permit is not operating, the Permittee shall either record the fact that the equipment is shut down or perform the observations, sampling, maintenance procedures, and record keeping that would otherwise be required by this permit.

(c) If the equipment is operating but abnormal conditions prevail, additional observations and sampling should be taken with a record made of the nature of the abnormality.

(d) If for reasons beyond its control, the operator fails to make required observations, sampling, maintenance procedures, or record keeping, reasons for this must be recorded.

(e) At its discretion, IDEM may excuse such failure providing adequate justification is documented and such failures do not exceed five percent (5%) of the operating time in any quarter.

(f) Temporary, unscheduled unavailability of staff qualified to perform the required observations, sampling, maintenance procedures, or record keeping shall be considered a valid reason for failure to perform the requirements stated in (a) above.

C.18 General Record Keeping Requirements [326 IAC 2-6.1-2]

(a) Records of all required monitoring data and support information shall be retained for a period of at least five (5) years from the date of monitoring sample, measurement, report, or application. These records shall be kept at the source location for a minimum of three (3) years and available upon the request of an IDEM, OAM, representative. The records may be stored elsewhere for the remaining two (2) years as long as they are available upon request. If the Commissioner makes a written request for records to the Permittee, the Permittee shall furnish the records to the Commissioner within a reasonable time.

(b) Records of required monitoring information shall include, where applicable:

(1) The date, place, and time of sampling or measurements;

(2) The dates analyses were performed;

(3) The company or entity performing the analyses;

(4) The analytic techniques or methods used;

(5) The results of such analyses; and

(6) The operating conditions existing at the time of sampling or measurement.

(c) Support information shall include, where applicable:

(1) Copies of all reports required by this permit;

(2) All original strip chart recordings for continuous monitoring instrumentation;

(3) All calibration and maintenance records;

(4) Records of preventive maintenance shall be sufficient to demonstrate that failure to implement the Preventative Maintenance Plan did not cause or contribute to a violation of any limitation on emissions or potential to emit. To be relied upon subsequent to any such violation, these records may include, but are not limited to: work orders, parts inventories, and operator's standard operating procedures. Records of response steps taken shall indicate whether the response steps were performed in accordance with the Compliance Response Plan required by Section C - Compliance Monitoring Plan - Failure to take Response Steps, of this permit, and whether a deviation from a permit condition was reported. All records shall briefly describe what maintenance and response steps were taken and indicate who performed the tasks.

(d) All record keeping requirements not already legally required shall be implemented when operation begins.

C.19 General Reporting Requirements [326 IAC 2-1.1-11] [326 IAC 2-6.1-2] [IC 13-14-1-13]

(a) To affirm that the source has met all the compliance monitoring requirements stated in this permit the source shall submit a Semi-annual report. Compliance Monitoring Report. Any deviation from the requirements and the date(s) of each deviation must be reported. The Compliance Monitoring Report shall include the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(b) The report required in (a) of this condition and reports required by conditions in Section D of this permit shall be submitted to:

Indiana Department of Environmental Management
Compliance Data Section, Office of Air Management
100 North Senate Avenue, P. O. Box 6015
Indianapolis, Indiana 46206-6015

(c) Unless otherwise specified in this permit, any notice, report, or other submission required by this permit shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely if received by IDEM, OAM, on or before the date it is due.

(d) Unless otherwise specified in this permit, any semi-annual report shall be submitted within thirty (30) days of the end of the reporting period. The report does not require the certification by the "authorized individual" as defined by 326 IAC 2-1.1-1(1).

(e) All instances of deviations must be clearly identified in such reports. A reportable deviation is an exceedance of a permit limitation or a failure to comply with a requirement of the permit or a rule. It does not include:

(1) An excursion from compliance monitoring parameters as identified in Section D of this permit unless tied to an applicable rule or limit; or

(2) A malfunction as described in 326 IAC 1-6-2; or

(3) Failure to implement elements of the Preventive Maintenance Plan unless lack of maintenance has caused or contributed to a deviation.

(4) Failure to make or record information required by the compliance monitoring provisions of Section D unless such failure exceeds 5% of the required data in any calendar quarter.

A Permittee's failure to take the appropriate response step when an excursion of a compliance monitoring parameter has occurred or failure to monitor or record the required compliance monitoring is a deviation.

(f) Any corrective actions or response steps taken as a result of each deviation must be clearly identified in such reports.

(g) The first report shall cover the period commencing on the date of issuance of this permit and ending on the last day of the reporting period.

C.20 Annual Notification [326 IAC 2-6.1-5(a)(5)]

(a) Annual notification shall be submitted to the Office of Air Management stating whether or not the source is in operation and in compliance with the terms and conditions contained in this permit.

(b) Noncompliance with any condition must be specifically identified. If there are any permit conditions or requirements for which the source is not in compliance at any time during the year, the Permittee must provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be, achieved. The notification must be signed by an authorized individual.

(c) The annual notice shall cover the time period from January 1 to December 31 of the previous year, and shall be submitted in the format attached no later than March 1 of each year to:

Compliance Data Section, Office of Air Management
Indiana Department of Environmental Management
100 North Senate Avenue, P.O. Box 6015
Indianapolis, IN 46206-6015

(d) The notification shall be considered timely if the date postmarked on the envelope or certified mail receipt, or affixed by the shipper on the private shipping receipt, is on or before the date it is due. If the document is submitted by any other means, it shall be considered timely received by IDEM, OAM on or before the date it is due.

SECTION D.1 EMISSIONS UNIT OPERATION CONDITIONS

Emissions unit Description :

(The information describing the process contained in this emissions unit description box is descriptive information and does not constitute enforceable conditions.)

(a) One (1) natural gas-fired reverberatory furnace identified as Furnace # 2, with a maximum heat input rate of 3.55 million (MM) British thermal units (Btu) per hour with a maximum capacity of melting 1500 pounds of aluminum per hour, and exhausting through stack # 2;

(b) Nine (9) natural gas-fired reverberatory furnaces, each with a maximum melting rate of 0.5 tons of aluminum per hour, identified as Furnaces # 3 and 5, each with a maximum heat input rate of 2.90 MMBtu/hr, exhausting through stacks # 3 and 5; Furnace # 6 with a maximum heat input rate of 4.62 MMBtu/hr, exhausting through stack # 6; Furnaces # 4, 7, 8, 9 and 10 each with a maximum heat input rate of 3.55 MMBtu/hr, exhausting through stacks # 4, 7, 8, 9 and 10, respectively; and Furnace # 11 with a maximum heat input rate of 2.4 MMBtu/hr, exhausting through stack # 11;

(c) Nine (9) natural gas-fired core machines with a maximum capacity to produce 710 lbs of cores per hour, three (3) identified as Dependable 600 # 1, 2 and 3, each with a maximum heat input rate of 0.38 MMBtu/hr; three (3) identified as Dependable 400 # 1, 2 and 3, each with a maximum heat input rate of 0.27 MMBtu/hr; one (1) Dependable 200 with a maximum heat input rate of 0.17 MMBtu/hr; one (1) U360 with a maximum heat input rate of 1.00 MMBtu/hr; and one (1) Redford with a maximum heat input rate of 0.37 MMBtu/hr;

(d) Two (2) electric-fired core machines, identified as U180 #1 and U180 #2;

(e) One (1) Lost Foam Molding operation with a maximum throughput of 0.5 tons per hour with a baghouse to control PM emissions;

(f) Two (2) natural gas-fired aging ovens (ID#'s 1 and 2), each with a maximum heat input of 0.6 MMBtu/hr venting to the interior of the building;

(g) One (1) pot furnace, which serves as a holding tank only; and

(h) Twenty (20) natural gas-fired torches venting to the interior of the building;

(i) One (1) SO_2 gassing chamber for the core department process that utilizes one (1) SO_2 scrubber unit to control emissions venting to the interior of the building;

(j) One (1) castings grinding/cleaning/finishing shop with a maximum throughput of 1.01 tons of aluminum per hour, with one (1) Torlt Dryno baghouse to control PM emissions venting to the interior of the building;

(k) One (1) pouring/casting operation with a maximum throughput of 5.25 tons of aluminum per hour; and

(l) One (1) sand grinding/handling operation with a maximum throughput of 0.4765 tons per hour.

Emission Limitations and Standards

D.1.1 Particulate Matter (PM) [326 IAC 6-3]

Pursuant to 326 IAC 6-3 (Process Operations), the allowable PM emission rate from the reverberatory furnace # 2 shall not exceed 3.38 pounds per hour when operating at a process weight rate of 1500 pounds per hour. The allowable PM emission rate from each reverberatory furnaces # 3, 4, 5, 6, 7, 8, 9, 10, 11 shall not exceed 2.58 pounds per hour when each is operating at a process weight rate of 1000 pounds per hour.

The pounds per hour limitation was calculated with the following equation:

Interpolation and extrapolation of the data for the process weight rate up to 60,000 pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour; and
P = process weight rate in tons per hour

Emission Unit	Process Weight Rate (tons/hr)	Allowable PM Emissions (326 IAC 6-3-2) (lb/hr)
Reverberatory Furnace # 2	0.75	3.38
Reverberatory Furnace # 3	0.50	2.58
Reverberatory Furnace # 4	0.50	2.58
Reverberatory Furnace # 5	0.50	2.58
Reverberatory Furnace # 6	0.50	2.58
Reverberatory Furnace # 7	0.50	2.58
Reverberatory Furnace # 8	0.50	2.58
Reverberatory Furnace # 9	0.50	2.58
Reverberatory Furnace # 10	0.50	2.58
Reverberatory Furnace # 11	0.50	2.58
Dependable 600 # 1	0.04	0.47
Dependable 600 # 2	0.04	0.47
Dependable 600 # 3	0.04	0.47
Dependable 400 # 1	0.04	0.47
Dependable 400 # 2	0.04	0.47
Dependable 400 # 3	0.04	0.47
Dependable 200	0.04	0.47

U360	0.04	0.47
Redford	0.04	0.47
Lost Foam Molding	0.50	2.58

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the Casting cleaning/finishing shop and its control device.

Compliance Determination Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.3 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.1.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing. The lost foam molding baghouse shall be in operation at all times.

Compliance Monitoring Requirements [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.4 Visible Emissions Notations

(a) Daily visible emission notations of the Casting cleaning/finishing shop stack exhaust shall be performed during normal daylight operations when exhausting to the atmosphere. A trained employee shall record whether emissions are normal or abnormal.

(b) For processes operated continuously, "normal" means those conditions prevailing, or expected to prevail, eighty percent (80%) of the time the process is in operation, not counting startup or shut down time.

(c) In the case of batch or discontinuous operations, readings shall be taken during that part of the operation that would normally be expected to cause the greatest emissions.

(d) A trained employee is an employee who has worked at the plant at least one (1) month and has been trained in the appearance and characteristics of normal visible emissions for that specific process.

(e) The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when an abnormal emission is observed.

D.1.5 Parametric Monitoring

The Permittee shall record the total static pressure drop across the baghouse used in conjunction with the Casting cleaning/finishing shop, at least once weekly when the Casting cleaning/finishing shop is in operation when venting to the atmosphere. Unless operated under conditions for which the Compliance Response Plan specifies otherwise, the pressure drop across the baghouse shall be maintained within the range of 6.0 and 10.0 inches of water or a range established during the latest stack test. The Compliance Response Plan for this unit shall contain troubleshooting contingency and response steps for when the pressure reading is outside of the above mentioned range for any one reading.

The instrument used for determining the pressure shall comply with Section C - Pressure Gauge

Specifications, of this permit, shall be subject to approval by IDEM, OAM, and shall be calibrated at least once every six (6) months.

D.1.6 Baghouse Inspections

An inspection shall be performed each calender quarter of all bags controlling the casting grinding/cleaning/finishing shop operation and the lost foam molding operation when venting to the atmosphere. A baghouse inspection shall be performed three months of redirecting vents to the atmosphere and every three months thereafter. Inspections are optional when venting to the indoors. All defective bags shall be replaced.

D.1.7 Broken or Failed Bag Detection

In the event that bag failure has been observed:

(a) The affected compartments will be shut down immediately until the failed units have been repaired or replaced. Within eight (8) hours of the determination of failure, response steps according to the timetable described in the Compliance Response Plan shall be initiated. For any failure with corresponding response steps and timetable not described in the Compliance Response Plan, response steps shall be devised within eight (8) hours of discovery of the failure and shall include a timetable for completion. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

(b) For single compartment baghouses, failed units and the associated process will be shut down immediately until the failed units have been repaired or replaced. Operations may continue only if the event qualifies as an emergency and the Permittee satisfies the requirements of the emergency provisions of this permit (Section B - Emergency Provisions).

Record Keeping and Reporting Requirement [326 IAC 2-5.1-3(e)(2)] [326 IAC 2-6.1-5(a)(2)]

D.1.8 Record Keeping Requirements

(a) To document compliance with Condition D.1.4, the Permittee shall maintain records of daily visible emission notations of the Casting cleaning/finishing shop stack exhaust.

(b) To document compliance with Condition D.1.5, the Permittee shall maintain the following:

(1) Daily records of the following operational parameters during normal operation when venting to the atmosphere:

(A) Inlet and outlet differential static pressure; and

(B) Cleaning cycle: frequency and differential pressure.

(2) Documentation of all response steps implemented, per event .

(3) Operation and preventive maintenance logs, including work purchases orders, shall be maintained.

(4) Quality Assurance/Quality Control (QA/QC) procedures.

(5) Operator standard operating procedures (SOP).

(6) Manufacturer's specifications or its equivalent.

(7) Equipment "troubleshooting" contingency plan.

(8) Documentation of the dates vents are redirected.

SECTION D.2 Emissions unit OPERATION CONDITIONS

Emissions unit Description:

(a) Three (3) natural gas-fired boilers (ID#"s 1, 2 and 3) each with a maximum heat input of 0.244 MMBtu/hr, exhausting through stack # 14;

(b) One (1) natural gas-fired steam generating boiler (ID# 4) with a maximum heat input capacity of 1.344 MMBtu/hr, exhausting through stacks 15 and 16;

(c) Fifty-six (56) natural gas-fired space heaters each with a maximum heat input of 0.05 MMBtu/hr, venting to the interior of the building;

(d) One (1) cafeteria furnace, with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack # 12; and

(e) One (1) office furnace with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack # 13;

(f) Two (2) 10,000 gallon underground storage tanks to store No. 2 fuel oil; and

(g) Four (4) 1,000 gallon above ground storage tanks to store LP gas.

Emission Limitations and Standards

D.2.1 Particulate Matter Limitation (PM) [326 IAC 6-2-3]

(a) Each of the (3) natural gas-fired boilers (identified as Boiler # 1, 2 and 3) rated at 0.244 MMBtu/hr each, are subject to the particulate matter limitations of 326 IAC 6-2-4. Pursuant to this rule, the boilers (boilers # 1 and 2 constructed in 1985, and boiler # 3 constructed in 1989) are limited by the following equation:

$Pt = (1.09)/(Q^{0.26})$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu/hr heat input
Q = total source max. indirect heater input = boiler #1 + #2 + #3 = (3 * 0.244 MMBtu/hr) = 0.732 MMBtu/hr

$Pt = (1.09)/(0.732^{0.26}) = 1.00$ MMBtu/hr

However, pursuant to 326 IAC 6-2-4, indirect heating units with a heat input rate (Q) of less than 10 MMBtu/hr shall be limited to 0.60 lb/MMBtu heat input. Therefore, PM emissions from each of the three (3) 0.244 MMBtu/hr boilers shall be limited to 0.60 lb/MMBtu heat input.

(b) Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating), indirect heating units which began operation on or before June 8, 1972, shall in no case exceed 0.8 lb/MMBtu heat input.

This limitation is based on the following equation:

$Pt = (C*a*h)/(76.5*Q^{0.75}*N^{0.25})$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input

C = maximum ground level concentration (50 μg/m^3, for a period not to exceed 60 min.)
Q = total source max. indirect heater input = boiler #4 = 1.344 MMBtu/hr
N = number of stacks in the fuel burning operation = 2
a = plume rise factor (0.67, for Q < 1,000)
h = average stack height in feet = 28 feet

Pt = $(50*0.67*28)/(76.5*1.344^{0.75}*2^{0.25})$ = 8.26 lbs PM/MMBtu

Therefore, the PM emissions from the one (1) natural gas-fired steam generating boiler (identified as Boiler # 4 and constructed in 1965) rated at 1.344 MMBtu per hour heat input shall be limited to 0.8 pounds per MMBtu heat input.

Compliance Determination Requirements

D.2.2 Testing Requirements [326 IAC 2-1.1-11]

The Permittee is not required to test this emissions unit by this permit. However, IDEM may require compliance testing when necessary to determine if the emissions unit is in compliance. If testing is required by IDEM, compliance with the PM limit specified in Condition D.2.1 shall be determined by a performance test conducted in accordance with Section C - Performance Testing.

OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

MINOR SOURCE OPERATING PERMIT
ANNUAL NOTIFICATION

This form should be used to comply with the notification requirements under 326 IAC 2-6.1-5(a)(5).

Company Name:	**Maco Corporation**
Address:	**1345 Henry Street**
City:	**Huntington**
Phone #:	**219-356-3900**
MSOP #:	**069-11249-00048**

I hereby certify that **[source]** is **9** still in operation.
9 no longer in operation.

I hereby certify that **[source]** is **9** in compliance with the requirements of MSOP **069-11249-00048**.
9 not in compliance with the requirements of MSOP **069-11249-00048**.

Authorized Individual (typed):
Title:
Signature:
Date:

If there are any conditions or requirements for which the source is not in compliance, provide a narrative description of how the source did or will achieve compliance and the date compliance was, or will be achieved.

Noncompliance:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

MINOR SOURCE OPERATING PERMIT
SEMI-ANNUAL COMPLIANCE MONITORING REPORT

Source Name: Maco Corporation
Source Address: 1345 Henry Street, Huntington, IN 46750
Mailing Address: P.O. Box 709, Huntington, IN 46750
MSOP Permit No.: 069-11249-00048

Months: _____to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	**Number of Deviations**	**Date of each Deviation**

Form Completed By: _____
Title/Position: _____
Date: _____
Phone: _____

Attach a signed certification to complete this report.

MALFUNCTION REPORT

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
FAX NUMBER - 317 233-5967

This form should only be used to report malfunctions applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

THIS FACILITY MEETS THE APPLICABILITY REQUIREMENTS BECAUSE IT HAS POTENTIAL TO EMIT 25 TONS/YEAR PARTICULATE MATTER ?_____, 25 TONS/YEAR SULFUR DIOXIDE ?_____, 25 TONS/YEAR NITROGEN OXIDES?_____, 25 TONS/YEAR VOC ?_____, 25 TONS/YEAR HYDROGEN SULFIDE ?_____, 25 TONS/YEAR TOTAL REDUCED SULFUR ?_____, 25 TONS/YEAR REDUCED SULFUR COMPOUNDS ?_____, 25 TONS/YEAR FLUORIDES ?_____, 100TONS/YEAR CARBON MONOXIDE ?_____, 10 TONS/YEAR ANY SINGLE HAZARDOUS AIR POLLUTANT ?_____, 25 TONS/YEAR ANY COMBINATION HAZARDOUS AIR POLLUTANT ?_____, 1 TON/YEAR LEAD OR LEAD COMPOUNDS MEASURED AS ELEMENTAL LEAD ?_____, OR IS A SOURCE LISTED UNDER 326 IAC 2-5.1-3(2) ?_____. EMISSIONS FROM MALFUNCTIONING CONTROL EQUIPMENT OR PROCESS EQUIPMENT CAUSED EMISSIONS IN EXCESS OF APPLICABLE LIMITATION _____.

THIS MALFUNCTION RESULTED IN A VIOLATION OF: 326 IAC _____ OR, PERMIT CONDITION # _____ AND/OR PERMIT LIMIT OF _____

THIS INCIDENT MEETS THE DEFINITION OF 'MALFUNCTION' AS LISTED ON REVERSE SIDE ? Y N

THIS MALFUNCTION IS OR WILL BE LONGER THAN THE ONE (1) HOUR REPORTING REQUIREMENT ? Y N

COMPANY:__**Maco Corporation**_____PHONE NO. (**219**)_**356-3900**_____
LOCATION: (CITY AND COUNTY)__**Huntington, Huntington** _____
PERMIT NO. __**069-11249**_____ AFS PLANT ID: _**069-00048**__ AFS POINT ID: _____ INSP:__**RJH**_____
CONTROL/PROCESS DEVICE WHICH MALFUNCTIONED AND REASON:_____
_____

DATE/TIME MALFUNCTION STARTED: _____/_____/ 19____ _____ AM /PM

ESTIMATED HOURS OF OPERATION WITH MALFUNCTION CONDITION: _____

DATE/TIME CONTROL EQUIPMENT BACK-IN SERVICE_____/_____/ 19____ _____ AM/PM

TYPE OF POLLUTANTS EMITTED: TSP, PM-10, SO2, VOC, OTHER:_____

ESTIMATED AMOUNT OF POLLUTANT EMITTED DURING MALFUNCTION: _____

MEASURES TAKEN TO MINIMIZE EMISSIONS:_____

_____

REASONS WHY FACILITY CANNOT BE SHUTDOWN DURING REPAIRS:

CONTINUED OPERATION REQUIRED TO PROVIDE ESSENTIAL* SERVICES:_____
CONTINUED OPERATION NECESSARY TO PREVENT INJURY TO PERSONS:_____
CONTINUED OPERATION NECESSARY TO PREVENT SEVERE DAMAGE TO EQUIPMENT:_____
INTERIM CONTROL MEASURES: (IF APPLICABLE)_____
_____
_____

MALFUNCTION REPORTED BY:_____TITLE:_____
(SIGNATURE IF FAXED)

MALFUNCTION RECORDED BY:_____DATE:_____TIME:_____

*SEE PAGE 2

Please note - This form should only be used to report malfunctions

applicable to Rule 326 IAC 1-6 and to qualify for the exemption under 326 IAC 1-6-4.

326 IAC 1-6-1 Applicability of rule

Sec. 1.This rule applies to the owner or operator of any facility required to obtain a permit under 326 IAC 2-5.1 or 326 IAC 2-6.1.

326 IAC 1-2-39 "Malfunction" definition

Sec. 39. Any sudden, unavoidable failure of any air pollution control equipment, process, or combustion or process equipment to operate in a normal and usual manner.

***Essential services** are interpreted to mean those operations, such as, the providing of electricity by power plants. Continued operation solely for the economic benefit of the owner or operator shall not be sufficient reason why a facility cannot be shutdown during a control equipment shutdown.

If this item is checked on the front, please explain rationale:

_____

_____

.

Indiana Department of Environmental Management
Office of Air Management

Addendum to the
Technical Support Document for a Minor Source Operating Permit

Source Name:	Maco Corporation
Source Location:	1345 Henry Street, Huntington, IN 46750
County:	Huntington
SIC Code:	3365
Operation Permit No.:	MSOP 069-11249-00048
Permit Reviewer:	Nishat Hydari/EVP

On October 28, 1999, the Office of Air Management (OAM) had a notice published in the Herald Press, Huntington, Indiana, stating that Maco Corporation had applied for a Minor Source Operating Permit relating to the construction and operation of a reverberatory furnace which is being added to the existing secondary aluminum foundry. The notice also stated that OAM proposed to issue a permit for this installation and provided information on how the public could review the proposed permit and other documentation. Finally, the notice informed interested parties that there was a period of thirty (30) days to provide comments on whether or not this permit should be issued as proposed.

On November 23, 1999, Laura Krejchi of Cornerstone Environmental, Health, and Safety, Inc., submitted comments on behalf of Maco Corporation on the proposed Minor Source Operating Permit. The summary of the comments and corresponding responses are as follows (changes in bold or strikeout for emphasis):

Comment 1

Condition A.2, (k) lists the maximum throughput of the aluminum as 4.5 tons per hour. This is the maximum throughput of the existing 9 furnaces. The new furnace (Furnace #2) has a capacity of 1500 pounds per hour or 0.75 tons per hour. The new total maximum throughput for the entire source is 5.25 tons per hour. This will also need to be changed in Section D.1 (k).

Response 1

The permit has been revised to correctly list the capacity of the pouring/casting operation. The following revisions have been made to the Permit (**bolded** language has been added, the language with a ~~line~~ through it has been deleted).

Section A.2(k) of the permit have been revised as follows:

A.2 Emissions units and Pollution Control Equipment Summary

(k) One (1) pouring/casting operation with a maximum throughput of ~~4.5~~ **5.25** tons of aluminum per hour;

The following changes have been made to the unit description in Section D.1.

SECTION D.1 EMISSION UNIT OPERATION CONDITIONS

Emissions unit Description:
(k) One (1) pouring/casting operation with a maximum throughput of ~~4.5~~ **5.25** tons of aluminum per hour; and

The following revisions have been made to the Technical Support Document under Compliance Requirements (**bolded** language has been added, the language with a ~~line~~ through it has been deleted). The OAM prefers that the Technical Support Document reflect the permit that was on public notice. Changes to the permit or technical support material that occur after the public notice are documented in this Addendum to the Technical Support Document. This accomplishes the desired result of ensuring that these types of concerns are documented and part of the record regarding this permit decision.

There has been an increase in potential emissions from the source as a result of this change. The following revisions have been made to the Technical Support Document. However, there are no changes on the limits specified.

On page 2 of 8 of the TSD, the permitted emission units and pollution control equipment section has been revised as follows:

(j) One (1) pouring/casting operation with a maximum throughput of ~~4.5~~ **5.25** tons of aluminum per hour;

On page 4 of 8 of the TSD, the potential to emit table has been revised as follows:

Pollutant	Potential To Emit (tons/year)
PM	181.89
PM-10	69.84
SO_2	~~50.19~~ **50.26**
VOC	~~11.56~~ **12.02**
CO	16.20
NO_x	~~17.68~~ **17.71**

On page 5 of 8 of the TSD, the existing source PSD definition has been revised as follows:

Pollutant	Emissions (ton/yr)
PM	110.45
PM10	62.70
SO_2	~~21.29~~ **21.36**
VOC	~~11.56~~ **12.02**
CO	16.20
NO_x	~~17.68~~ **17.71**

Comment 2

We feel that it should be noted in Section B of the permit that the only piece of equipment that is being constructed is the new Furnace #2. All the other equipment is currently in place. Condition B.6(a)(1) can be read as the entire source can not start operation until the Affidavit is sent to IDEM without this clarification.

Response 2

The following changes have been made to Section B.4 and section B.6(a):

B.4 Revocation of Permits [326 IAC 2-1.1-9(5)]

Pursuant to 326 IAC 2-1.1-9(5)(Revocation of Permits), the Commissioner may revoke this permit if construction **of reverberatory furnace # 2** is not commenced within eighteen (18) months after receipt of this approval or if construction is suspended for a continuous period of one (1) year or more.

B.6 Minor Source Operating Permit [326 IAC 2-6.1]

This document shall also become a minor source operating permit pursuant to 326 IAC 2-6.1 when, prior to start of operation, the following requirements are met:

(a) The attached Affidavit of construction shall be submitted to the Office of Air Management (OAM), Permit Administration & Development Section.

(1) If the Affidavit of Construction verifies that the **reverberatory furnace # 2** covered in this Construction Permit was constructed as proposed in the application, then the facilities may begin operating on the date the Affidavit of Construction is postmarked or hand delivered to IDEM.

Comment 3

Condition C.19 requires a Semi-Annual Compliance Monitoring Report. There is not a report attached to the permit to meet this requirement. Please add a semi-annual report to the permit.

Response 3

The following semi-annual compliance monitoring report has been added to the permit:

INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
OFFICE OF AIR MANAGEMENT
COMPLIANCE DATA SECTION

MINOR SOURCE OPERATING PERMIT
SEMI-ANNUAL COMPLIANCE MONITORING REPORT

Source Name: Maco Corporation
Source Address: 1345 Henry Street, Huntington, IN 46750
Mailing Address: P.O. Box 709, Huntington, IN 46750
MSOP Permit No.: 069-11249-00048

Months: _____to _____ Year: _____

This report is an affirmation that the source has met all the compliance monitoring requirements stated in this permit. This report shall be submitted semi-annually. Any deviation from the compliance monitoring requirements and the date(s) of each deviation must be reported. Additional pages may be attached if necessary. This form can be supplemented by attaching the Emergency/Deviation Occurrence Report. If no deviations occurred, please specify in the box marked "No deviations occurred this reporting period".

9 NO DEVIATIONS OCCURRED THIS REPORTING PERIOD.

9 THE FOLLOWING DEVIATIONS OCCURRED THIS REPORTING PERIOD.

Compliance Monitoring Requirement (e.g. Permit Condition D.1.3)	**Number of Deviations**	**Date of each Deviation**

Form Completed By: _____
Title/Position: _____
Date: _____

Phone: _____

Attach a signed certification to complete this report.

Comment 4

Sections D.1.2, D.1.4, and D.1.5 are not consistent with the requirements for the three pieces of control equipment: the Torit dust collector for the castings shop; the lost foam molding operation baghouse; and the SO2 scrubber unit. Please review this section for the proper requirements.

Response 4

The Casting cleaning/finishing shop operation has a control device and allowable emissions do not exceed 10 lbs/hr . Conditions D.1.4 and D.1.5 shall remain unchanged due to this comment. The following changes have been made to Condition D.1.2:

D.1.2 Preventive Maintenance Plan [326 IAC 1-6-3]

A Preventive Maintenance Plan, in accordance with Section C - Preventive Maintenance Plan, of this permit, is required for the ~~Lost Foam Molding unit~~ **Casting cleaning/finishing shop** and its control device.

Comment 5

On page 6 of 8 under State Rule Applicability, it states that 326 IAC 2-6 does not apply, but in the next paragraph it states that the source will be required annually to submit a statement of the actual emissions. We think this is a typographical error and this second paragraph should state that the source is not required to submit the actual emissions.

Response 5

IDEM agrees that the second paragraph under State Rule Applicability is a typographical error. The following revisions have been made to the Technical Support Document.

On page 6 of 8 of the TSD, the second paragraph under State Rule Applicability has been revised as follows:

~~The source will be required to annually submit a statement of the actual emissions of all federally regulated pollutants from the source, for the purpose of fee assessment.~~

Indiana Department of Environmental Management
Office of Air Management

Technical Support Document (TSD) for a Minor Source Operating Permit

Source Background and Description

Source Name: **Maco Corporation**
Source Location: **1345 Henry Street, Huntington, IN 46750**
County: **Huntington**
SIC Code: **3365**
Operation Permit No.: **MSOP 069-11249-00048**
Permit Reviewer: **Nishat Hydari/EVP**

The Office of Air Management (OAM) has reviewed a modification application from Maco Corporation relating to the construction and operation of a reverberatory furnace which is being added to the existing secondary aluminum foundry.

History

On April 26, 1996, a construction permit, CP 069-5084-00048 was issued to Maco Corporation stating that the source was a secondary aluminum foundry and was therefore one of the 28 listed sources for PSD applicability. However, pursuant to recent analysis of Die Casting Operations, this source is not a secondary aluminum foundry, because (1) the facility uses feedstock such as ingots, billets, bars or sows that is of a specified alloy and purity or scrap from other industrial facilities for which the quality is specified and guaranteed by contract and for which little fluxing or alloying is required; and (2) the facility does not produce intermediate forms of feedstock for sale or use by other facilities. Therefore, the source is not one of the 28 listed categories.

New Emission Units and Pollution Control Equipment

The application includes information relating to the construction and operation of the following equipment:

(a) One (1) natural gas-fired reverberatory furnace identified as Furnace # 2, with a maximum heat input rate of 3.55 million (MM) British thermal units (Btu) per hour with a maximum capacity of melting 1500 pounds of aluminum per hour, and exhausting through stack # 2.

Permitted Emission Units and Pollution Control Equipment

The source consists of the following permitted emission units and pollution control devices:

(a) Nine (9) natural gas-fired reverberatory furnaces, each with a maximum melting rate of 0.5 tons of aluminum per hour, identified as Furnaces # 3 and 5, each with a maximum heat input rate of 2.90 MMBtu/hr, exhausting through stacks # 3 and 5; Furnace # 6 with a maximum heat input rate of 4.62 MMBtu/hr, exhausting through stack # 6; Furnaces # 4, 7, 8, 9 and 10 each with a maximum heat input rate of 3.55 MMBtu/hr, exhausting through stacks # 4, 7, 8, 9 and 10, respectively; and Furnace # 11 with a maximum heat input rate of 2.4 MMBtu/hr, exhausting through stack # 11;

(b) Nine (9) natural gas-fired core machines with a maximum capacity to produce 710 lbs of cores per hour, three (3) identified as Dependable 600 # 1, 2 and 3, each with a maximum heat input rate of 0.38 MMBtu/hr; three (3) identified as Dependable 400 # 1, 2 and 3, each with a maximum heat input rate of 0.27 MMBtu/hr; one (1) Dependable 200 with a maximum heat input rate of 0.17 MMBtu/hr; one (1) U360 with a maximum heat input rate of 1.00 MMBtu/hr; and one (1) Redford with a maximum heat input rate of 0.37 MMBtu/hr;

(c) Two (2) electric-fired core machines, identified as U180 #1 and U180 #2;

(d) One (1) Lost Foam Molding operation with a maximum throughput of 0.5 tons per hour with a baghouse to control PM emissions;

(e) Two (2) natural gas-fired aging ovens (ID#'s 1 and 2), each with a maximum heat input of 0.6 MMBtu/hr venting to the interior of the building;

(f) One (1) pot furnace, which serves as a holding tank only;

(g) Twenty (20) natural gas-fired torches venting to the interior of the building;

(h) One (1) SO_2 gassing chamber for the core department process that utilizes one (1) SO_2 scrubber unit to control emissions venting to the interior of the building;

(i) One (1) castings grinding/cleaning/finishing shop with a maximum throughput of 1.01 tons of aluminum per hour, with one (1) Torlt Dryno baghouse to control PM emissions venting to the interior of the building;

(j) One (1) pouring/casting operation with a maximum throughput of 4.5 tons of aluminum per hour;

(k) One (1) sand grinding/handling operation with a maximum throughput of 0.4765 tons per hour;

(l) Three (3) natural gas-fired boilers (ID#"s 1, 2 and 3) each with a maximum heat input of 0.244 MMBtu/hr, exhausting through stack # 14;

(m) One (1) natural gas-fired steam generating boiler (ID# 4) with a maximum heat input capacity of 1.344 MMBtu/hr, exhausting through stacks 15 and 16;

(n) Fifty-six (56) natural gas-fired space heaters each with a maximum heat input of 0.05 MMBtu/hr, venting to the interior of the building;

(o) One (1) cafeteria furnace, with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack # 12;

(p) One (1) office furnace with a maximum heat input of 0.075 MMBtu/hr, exhausting through stack # 13;

(q) Two (2) 10,000 gallon underground storage tanks to store No. 2 fuel oil; and

(r) Four (4) 1,000 gallon above ground storage tanks to store LP gas.

Unpermitted Emission Units and Pollution Control Equipment

There are no unpermitted facilities operating at this source during this review process.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) Construction Permit CP 069-5084-00048, issued on April 26, 1996; and

(b) Registration CP 069-3751-00048, issued on August 30, 1994.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
Stack # 2	Reverberatory Furnace	25	1.83	Natural draft	1375
Stack # 3, 4, 5, 6, 7, 8, 9, 10, & 11	Melting and combustion	25 each	1.83	Natural draft	1375 each
Stack # 14	Combustion	28	2.08	Natural draft	350
Stack 15 & 16	Combustion	28 each	1.01 each	Natural draft	350 each
Stack # 13	Combustion	25	0.17	Natural draft	350
Stack # 12	Combustion	25	0.17	Natural draft	350

Enforcement Issue

There are no enforcement actions pending.

Recommendation

The staff recommends to the Commissioner that the construction and operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

A complete application for the purposes of this review was received on August 19, 1999.

Emission Calculations

See Appendix A of this document for detailed emissions calculations (Appendix A, pages 1 through 7).

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as “the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency.”

Pollutant	Potential To Emit (tons/year)
PM	181.89
PM-10	69.84
SO_2	50.19
VOC	11.56
CO	16.20
NO_x	17.68

HAP's	Potential To Emit (tons/year)
Methanol	0.38
Formaldehyde	0.08
Dimethyl phthalate	0.85
Methyl ethyl ketone	0.02
TOTAL	1.32

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of PM, PM-10 and SO_2 is equal to or greater than 25 tons per year. Therefore, pursuant to 326 IAC 2-1, Sections 1 and 3, a construction permit is required.

(b) Pursuant to recent analysis of Die Casting Operations, this source is not a secondary aluminum foundry, because (1) the facility uses feedstock such as ingots, billets, bars or sows that is of a specified alloy and purity or scrap from other industrial facilities for which the quality is specified and guaranteed by contract and for which little fluxing or alloying is required; and (2) the facility does not produce intermediate forms of feedstock for sale or use by other facilities. Therefore, the source is not one of the 28 listed categories.

(c) Fugitive Emissions
Since this type of operation is not one of the twenty-eight (28) listed source categories under 326 IAC 2-2 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Actual Emissions

No previous emission data has been received from the source.

County Attainment Status

The source is located in Huntington County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule

applicability relating to the ozone standards. Huntington County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Huntington County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(c) Fugitive Emissions
Since this type of operation is not one of the 28 listed source categories under 326 IAC 2-2, 40 CFR 52.21, or 326 IAC 2-3 and since there are no applicable New Source Performance Standards that were in effect on August 7, 1980, the fugitive particulate matter (PM) and volatile organic compound (VOC) emissions are not counted toward determination of PSD and Emission Offset applicability.

Source Status

Existing Source PSD Definition (emissions after controls, based on 8,760 hours of operation per year at rated capacity and/ or as otherwise limited):

Pollutant	Emissions (ton/yr)
PM	110.45
PM10	62.70
SO_2	21.29
VOC	11.56
CO	16.20
NO_x	17.68

(a) This existing source is **not** a major stationary source because no attainment pollutant is emitted at a rate of 250 tons per year or greater and it is not in one of the 28 listed source categories. Therefore, pursuant to 326 IAC 2-2, and 40 CFR 52.21, the PSD requirements do not apply.

Part 70 Permit Determination

326 IAC 2-7 (Part 70 Permit Program)

This existing source, is not subject to the Part 70 Permit requirements because the potential to emit (PTE) of:

(a) each criteria pollutant is less than 100 tons per year,
(b) a single hazardous air pollutant (HAP) is less than 10 tons per year, and
(c) any combination of HAPs is less than 25 tons/year.

This status is based on all the air approvals issued to the source. This status has been verified by the OAM inspector assigned to the source.

Federal Rule Applicability

(a) There are no New Source Performance Standards (NSPS)(326 IAC 12 and 40 CFR Part 60) applicable to this source.

(b) There are no National Emission Standards for Hazardous Air Pollutants (NESHAPs)(326 IAC 14 and 40 CFR Part 63) applicable to this source.

(c) The New Source Performance Standards (NSPS)(40 CFR Part 60, Subpart Kb) does not apply to the two (2) 10,000 gallon storage tanks and the four (4) 1,000 gallon storage tanks because according to the rule the tanks have to be greater than 10,500 gallons.

(d) The New Source Performance Standards (NSPS)(40 CFR Part 60, Subpart Dc) does not apply to the three (3) natural gas-fired boilers (max. heat input of 0.244 MMBtu/hr each) and the one (1) natural gas-fired steam generating boiler (max. heat input of 1.344 MMBtu/hr) because according to the rule the boilers are not in the 10-99 MMBtu/hr range.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Huntington County and the potential to emit VOC and NOx is less than hundred (100) tons per year. The source is not one of the twenty -eight (28) listed sources and its potential to emit PM10 is less than one-hundred (100) tons per year including fugitive emissions, therefore, 326 IAC 2-6 does not apply.

The source will be required to annually submit a statement of the actual emissions of all federally regulated pollutants from the source, for the purpose of fee assessment.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

326 IAC 6-4 (Fugitive Dust Emissions)

This source is subject to 326 IAC 6-4 for fugitive dust emissions. Pursuant to 326 IAC 6-4 (Fugitive Dust Emissions), fugitive dust shall not be visible crossing the boundary or property line of a source. Observances of visible emissions crossing property lines may be refuted by factual data expressed in 326 IAC 6-4-2(1), (2) or (3).

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

Pursuant to CP 069-5084-00048, issued on April 26, 1999, the particulate matter (PM) from Maco Corporation shall be limited by the following:

Interpolation and extrapolation of the data for the process weight rate in excess of sixty thousand (60,000) pounds per hour shall be accomplished by use of the equation:

$E = 4.10\ P^{0.67}$ where E = rate of emission in pounds per hour and P = process weight rate in tons per hour

Emission Unit	Process Weight Rate (tons/hr)	Uncontrolled PM Emissions (lb/hr)	Control Efficiency %	Controlled PM Emissions (lb/hr)	Allowable PM Emissions (326 IAC 6-3-2) (lb/hr)

Reverberatory Furnace # 2	0.75	3.23	none	--	3.38
Reverberatory Furnace # 3	0.50	2.15	none	--	2.58
Reverberatory Furnace # 4	0.50	2.15	none	--	2.58
Reverberatory Furnace # 5	0.50	2.15	none	--	2.58
Reverberatory Furnace # 6	0.50	2.15	none	--	2.58
Reverberatory Furnace # 7	0.50	2.15	none	--	2.58
Reverberatory Furnace # 8	0.50	2.15	none	--	2.58
Reverberatory Furnace # 9	0.50	2.15	none	--	2.58
Reverberatory Furnace # 10	0.50	2.15	none	--	2.58
Reverberatory Furnace # 11	0.50	2.15	none	--	2.58
Dependable 600 # 1	0.04	0.00	none	--	0.47
Dependable 600 # 2	0.04	0.00	none	--	0.47
Dependable 600 # 3	0.04	0.00	none	--	0.47
Dependable 400 # 1	0.04	0.00	none	--	0.47
Dependable 400 # 2	0.04	0.00	none	--	0.47
Dependable 400 # 3	0.04	0.00	none	--	0.47
Dependable 200	0.04	0.00	none	--	0.47
U360	0.04	0.00	none	--	0.47
Redford	0.04	0.00	none	–	0.47
Lost Foam Molding	0.50	0.00	baghouse	0.00	2.58

326 IAC 6-2 (Particulate Emissions Limitations for Sources of Indirect Heating)

Pursuant to CP 069-5084-00048, issued on April 26, 1999, the particulate matter (PM) from Maco Corporation shall be limited by the following:

(a) Each of the (3) natural gas-fired boilers (identified as Boiler # 1, 2 and 3) rated at 0.244 MMBtu/hr each, are subject to the particulate matter limitations of 326 IAC 6-2-4. Pursuant to this rule, the boilers (boilers # 1 and 2 constructed in 1985, and boiler # 3 constructed in 1989) are limited by the following equation:

$Pt = (1.09)/(Q^{0.26)}$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu/hr heat input
Q = total source max. indirect heater input = boiler #1 + #2 + #3 = (3 * 0.244 MMBtu/hr) = 0.732 MMBtu/hr

$Pt = (1.09)/(0.732^{0.26}) = 1.00$ MMBtu/hr

However, pursuant to 326 IAC 6-2-4, indirect heating units with a heat input rate (Q) of less than 10 MMBtu/hr shall be limited to 0.60 lb/MMBtu heat input. Therefore, PM emissions from each of the three (3) 0.244 MMBtu/hr boilers shall be limited to 0.60 lb/MMBtu heat input.

(b) Pursuant to 326 IAC 6-2-3 (Particulate Matter Emission Limitations for Sources of Indirect Heating), indirect heating units which began operation on or before June 8, 1972, shall in no case exceed 0.8 lb/MMBtu heat input.

This limitation is based on the following equation:

$Pt = (C*a*h)/(76.5*Q^{0.75}*N^{0.25})$

where: Pt = maximum allowable particulate matter (PM) emitted per MMBtu heat input
C = maximum ground level concentration (50 $\mu g/m^3$, for a period not to exceed 60 min.)
Q = total source max. indirect heater input = boiler #4 = 1.344 MMBtu/hr
N = number of stacks in the fuel burning operation = 2
a = plume rise factor (0.67, for Q < 1,000)
h = average stack height in feet = 28 feet

$Pt = (50*0.67*28)/(76.5*1.344^{0.75}*2^{0.25})$ = 8.26 lbs PM/MMBtu

Therefore, the PM emissions from the one (1) natural gas-fired steam generating boiler (identified as Boiler # 4 and constructed in 1965) rated at 1.344 MMBtu per hour heat input shall be limited to 0.8 pounds per MMBtu heat input.

Air Toxic Emissions

Indiana presently requests applicants to provide information on emissions of the 188 hazardous air pollutants (HAPs) set out in the Clean Air Act Amendments of 1990. These pollutants are either carcinogenic or otherwise considered toxic and are commonly used by industries. They are listed as air toxics on the Office of Air Management (OAM) Construction Permit Application Form Y.

(a) This source will emit levels of air toxics less than those which constitute a major source according to Section 112 of the 1990 Clean Air Act Amendments.

(b) See attached calculations for detailed air toxic calculations. (Appendix A, page 6 of 7)

Conclusion

The construction and operation of this secondary aluminum foundry shall be subject to the conditions of the attached proposed **Minor Source Operating Permit 069-11249-00048.**

Appendix A: Emission Calculations

Company Name: Maco Corporation
Address City IN Zip: 1345 Henry Street, Huntington, IN 46750
CP: 069-11249
Plt ID: 069-00048
Reviewer: Nishat Hydari

Uncontrolled Potential Emissions (tons/year)

Emissions Generating Activity							
Pollutant	Reverberatory Furnaces	Natural Gas Combustion	Core Department	Pouring/ Casting	Grinding/ Cleaning	Sand Grinding/ Handling	**Total**
PM	98.88	0.30	0.00	0.00	75.20	7.51	**181.89**
PM10	59.79	1.40	0.00	0.00	7.52	1.13	**69.84**
SO2	20.70	0.10	29.00	0.39	0.00	0.00	**50.19**
NOx	17.48	0.00	0.00	0.20	0.00	0.00	**17.68**
VOC	4.60	1.00	3.20	2.76	0.00	0.00	**11.56**
CO	0.00	16.20	0.00	0.00	0.00	0.00	**16.20**
total HAPs	0.00	0.00	1.32	0.00	0.00	0.00	**1.32**
worst case single HAP	0.00	0.00	0.85	0.00	0.00	0.00	**0.85**
Total emissions based on rated capacity at 8,760 hours/year.							

Controlled Potential Emissions (tons/year)

Emissions Generating Activity							
Pollutant	Reverberatory Furnace	Natural Gas Combustion	Core Department	Pouring/ Casting	Grinding/ Cleaning	Sand Grinding/ Handling	**Total**
PM	98.88	0.30	0.00	0.00	3.76	7.51	**110.45**
PM10	59.79	1.40	0.00	0.00	0.38	1.13	**62.70**
SO2	20.70	0.10	0.10	0.39	0.00	0.00	**21.29**
NOx	17.48	0.00	0.00	0.20	0.00	0.00	**17.68**
VOC	4.60	1.00	3.20	2.76	0.00	0.00	**11.56**
CO	0.00	16.20	0.00	0.00	0.00	0.00	**16.20**
total HAPs	0.00	0.00	1.32	0.00	0.00	0.00	**1.32**
worst case single HAP	0.00	0.00	0.85	0.00	0.00	0.00	**0.85**
Total emissions based on rated capacity at 8,760 hours/year, after control.							

Appendix A: Secondary Metal Production
Aluminum

Company Name: Maco Corporation
Address City IN Zip: 1345 Henry Street, Huntington, IN 46750
CP: 069-11249
Plt ID: 069-00048
Reviewer: Nishat Hydari

SCC# 3-04-001-03
Reverberatory Furnace # 2

TYPE OF MATERIAL		Throughput LBS/HR	1 TON/2000 lbs	TON/HR		
Aluminum		1500	2000	0.75		
	PM * lbs/ton Produced	**PM10 * lbs/ton Produced**	**SOx lbs/ton Produced**	**NOx lbs/ton Produced**	**VOC * lbs/ton Produced**	**CO lbs/tons Produced**
	4.3	2.6	0.9	0.76	0.2	--
Potential Emissions lbs/hr	3.23	1.95	0.68	0.57	0.15	--
Potential Emissions lbs/day	77.40	46.80	16.20	13.68	3.60	--
Potential Emissions tons/year	14.13	8.54	2.96	2.50	0.66	--

SCC# 3-04-001-03
Reverberatory Furnace # 3, 4, 5, 6, 7, 8, 9, 10, and 11

TYPE OF MATERIAL		Throughput LBS/HR	1 TON/2000 lbs	TON/HR		
Aluminum		9000	2000	4.5		
	PM * lbs/ton Produced	**PM10 * lbs/ton Produced**	**SOx lbs/ton Produced**	**NOx lbs/ton Produced**	**VOC * lbs/ton Produced**	**CO lbs/tons Produced**
	4.3	2.6	0.9	0.76	0.2	--
Potential Emissions lbs/hr	19.35	11.70	4.05	3.42	0.90	--
Potential Emissions lbs/day	464.40	280.80	97.20	82.08	21.60	--
Potential Emissions tons/year	84.75	51.25	17.74	14.98	3.94	--

Appendix A: Secondary Metal Production
Aluminum

Company Name: Maco Corporation
Address City IN Zip: 1345 Henry Street, Huntington, IN 46750
CP: 069-11249
Plt ID: 069-00048
Reviewer: Nishat Hydari

SCC# 3-04-001-14
Pouring/Casting

TYPE OF MATERIAL		Throughput LBS/HR	1 TON/2000 lbs	TON/HR		
Aluminum		9000	2000	4.5		
	PM lbs/ton metal charged**	**PM10** lbs/ton metal charged**	**SOx * lbs/ton metal charged**	**NOx * lbs/ton metal charged**	**VOC * lbs/ton metal charged**	**CO lbs/tons metal charged**
	--	--	0.02	0.01	0.14	--
Potential Emissions lbs/hr	0.00	0.00	0.09	0.05	0.63	--
Potential Emissions lbs/day	0.00	0.00	2.16	1.08	15.12	--
Potential Emissions tons/year	0.00	0.00	0.39	0.20	2.76	--
Potential Emissions after control (tons/year)	0.00	0.00				

**PM and PM-10 emissions are controlled by a baghouse (75% efficient).

SCC# 3-04-003-40
Grinding/Cleaning

TYPE OF MATERIAL		Throughput LBS/HR	1 TON/2000 lbs	TON/HR		
Aluminum		2020	2000	1.01		
	PM lbs/ton metal charged**	**PM10** lbs/ton metal charged**	**SOx * lbs/ton metal charged**	**NOx * lbs/ton metal charged**	**VOC * lbs/ton metal charged**	**CO lbs/tons metal charged**
	17	1.7	--	--	--	--
Potential Emissions lbs/hr	17.17	1.72	0.00	0.00	0.00	--
Potential Emissions lbs/day	412.08	41.21	0.00	0.00	0.00	--
Potential Emissions tons/year	75.20	7.52	0.00	0.00	0.00	--
Potential Emissions after control (tons/year)	3.76	0.38				

**PM and PM-10 emissions are controlled by a baghouse (95% efficient).

SCC# 3-04-003-50
Sand Grinding/Handling

TYPE OF MATERIAL		Throughput LBS/HR	1 TON/2000 lbs	TON/HR		
Aluminum		953	2000	0.4765		
	PM lbs/ton metal charged**	**PM10** lbs/ton metal charged**	**SOx * lbs/ton metal charged**	**NOx * lbs/ton metal charged**	**VOC * lbs/ton metal charged**	**CO lbs/tons metal charged**
	3.6	0.54	0.00	--	0.00	--
Potential Emissions lbs/hr	1.72	0.26	0.00	0.00	0.00	--
Potential Emissions lbs/day	41.17	6.18	0.00	0.00	0.00	--
Potential Emissions tons/year	7.51	1.13	0.00	0.00	0.00	--

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Maco Corporation
Address City IN Zip: 1345 Henry Street, Huntington, IN 46750
CP: 069-11249
Plt ID: 069-00048
Reviewer: Nishat Hydari

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
41.8	365.8

Heat Input Capacity includes the following:

Facilities	**No. of units**	**MMBtu/hr**
Reverberatory Furnace	10	34.12
Aging Ovens	2	1.2
Core Machines	9	3.49
Space Heaters	56	2.8
Cafeteria Furnace	1	0.075
Mfg. Bldg. Office Furnace	1	0.075
		41.76

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	0.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.3	1.4	0.1	0.0	1.0	15.4

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.
**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Maco Corporation
Address City IN Zip: 1345 Henry Street, Huntington, IN 46750
CP: 069-11249
Plt ID: 069-00048
Reviewer: Nishat Hydari

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
0.7	6.4

Heat Input Capacity includes the following:

Facilities	**No. of units**	**MMBtu/hr**
Boilers	3	0.732

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	0.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0	0.3

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100

Company Name: Maco Corporation
Address City IN Zip: 1345 Henry Street, Huntington, IN 46750
CP: 069-11249
Plt ID: 069-00048
Reviewer: Nishat Hydari

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
1.3	11.8

Heat Input Capacity includes the following:

Facilities	**No. of units**	**MMBtu/hr**
Boilers	1	1.344

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	1.9	7.6	0.6	0.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.0	0.0	0.0	0.0	0.0	0.5

*PM emission factor is filterable PM only. PM10 emission factor is filterable and condensable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

Appendix A: Secondary Metal Production
Aluminum

Company Name: Maco Corporation
Address City IN Zip: 1345 Henry Street, Huntington, IN 46750
CP: 069-11249
Plt ID: 069-00048
Reviewer: Nishat Hydari

Process: Core Department (Iron-surface coating emissions) Chemicals used	Rate (tons/hr)	Pollutant	Wt% pollutant (lb/ton core)	Ebc (ton/yr)	Eac (ton/yr)	Type of control
Instadraw 1700	2.30E-05	VOC	100.0%	0.2	0.2	none
Furan Binder 1000	4.30E-04	VOC	35.0%	1.3	1.3	none
MEKP 1400	2.30E-04	VOC	52.0%	1.0	1.0	none
Blask Diamond	7.50E-05	VOC	100.0%	0.7	0.7	none
TOTAL		VOC		3.2	3.2	none
SO2 gas	3.31E-03	SO2	100.0%	29.0	0.1	SO2 scrubber 89.8% eff

Methodology:
Ebc (emissions before control) = Rate (tons/hr) * 8760 hrs/yr * wt% pollutant
Eac (emissions after control) = (1-efficiency/100) * Ebc

HAP Emission Calculations

Company Name: Maco Corporation
Plant Location: 1345 Henry Street, Huntington, IN 46750
County: Huntington
Permit Reviewer: Nishat Hydari

Material	HAP	Material usuage (lbs/hr)	Wt % HAP in material	Potential HAP emissions (lbs/hr)	Potential HAP emissions (tons/yr)
SO2 core forming					
Furan Binder 1000	Methanol	0.86	10.00%	0.09	0.38
	Formaldehyde	0.86	2.00%	0.02	0.08
MEKP 1400	Dimethylphthalate	0.46	42.00%	0.19	0.85
	Methylethylketone	0.46	1.00%	0.00	0.02
Heat core forming					
Compound 7	Methylisobutylketone	0.00	50.00%	0.00	0.00
Core dipping	NONE				
Mold spray coating	NONE				
Total State Potential Emissions				**0.30**	**1.32**

METHODOLOGY

HAPS emission rate (tons/yr) = Density (lb/gal) * Gal of Material (gal/unit) * Maximum (unit/hr) * Weight % HAP * 8760 hrs/yr * 1 ton/2000 lbs